Message

From: Otoniel Quiroz [oquiroz@tmtanf.org]
Sent: 8/18/2020 7:31:45 PM
To: Beckham, Lisa [BECKHAM.LISA@EPA.GOV]
Subject: RE: Summary of Clean Air Act Permitting for a Pyrolysis Project

Lisa,

Thank you so much for putting this together! This is exactly what I needed.

Much appreciated,
Tony

From: Beckham, Lisa [mailto:BECKHAM.LISA@EPA.GOV]
Sent: Friday, August 14, 2020 4:09 PM
To: Otoniel Quiroz
Cc: Harper, Kathryn; Gholson, Vernese
Subject: Summary of Clean Air Act Permitting for a Pyrolysis Project

Hi Tony,

Below is a summary of information I've gathered for a potential pyrolysis project. It's quite a bit, so feel free to let me know if you have questions! Additionally, I'll state this is general information, and the actual requirements that apply to any facility are determined on a case-by-case basis. As more specific information is available, the more precise of a determination that can be made. My intent is to simply provide as much information as possible, so you are well-informed of what may be required. There could also be pieces I've missed. We are happy to work with you on this project to ensure it meets Clean Air Act requirements.

What is pyrolysis?
The first attachment is an EPA document where we permitted a pyrolysis unit. Note that the particular unit is for hospital medical waste. The technology of the process is the same and there would like be an analogous federal standard that applies to the equipment you are looking at (if it doesn't meet EPA's definition of a pyrolysis unit). The second attachment is also another similar example, but a case where EPA does the analysis to see whether the unit qualifies as a pyrolysis unit. If a unit qualifies as a pyrolysis unit then it can be exempt from some requirements. If it does not meet the definition of a pyrolysis unit, then it is consider an incinerator and will trigger federal standards for incinerators. However, as detailed below, it is very likely this project will trigger some level of air permitting regardless of the pyrolysis/incinerator status.

Emissions Information

- When manufacturers supply emissions information we will want to know which EPA test methods were used and the specific unit that was tested (was it a full-scale or lab-scale unit? Is the manufacturer providing any guarantees related to emission rates?)
  - EPA Test Methods (for air emissions)
    - https://www.epa.gov/emc
    - https://www.epa.gov/emc/emc-promulgated-test-methods
  - For New Source Review (NSR) permitting, EPA will need emissions information on the expected emission rates for these pollutants:
    - Nitrogen oxides (NOX)
    - Sulfur dioxide (SO2)
    - Particulate matter, PM10, PM2.5
    - Volatile organic compounds (VOC)
    - Carbon monoxide (CO)

- Lead (Pb)
- Sulfuric acid
- Fluorides
- Hydrogen Sulfide

Permitting Requirements

- Permitting Programs
  - Preconstruction (a permit that specifies how an air pollution must be constructed and operated, applies to the facility for the life of the equipment and will require ongoing monitoring, testing, recordkeeping, and reporting, this permit must be obtained before any onsite construction can begin)
    - Prevention of Significant Deterioration (PSD) for major sources in attainment areas
    - Nonattainment New Source Review (NNSR) for major sources in nonattainment areas
    - Tribal Minor NSR for minor sources in attainment and nonattainment areas
    - No permitting fees for preconstruction permits from EPA

  - Operating - Title V operating permit program (link to basic info)
    - Program is generally for major sources, BUT certain types of equipment can be subject to title V permitting regardless of emission rates - this includes incinerators. As a result, if the unit does not meet EPA's criteria for a pyrolysis unit, then it would probably be required to get a title V operating permit
    - This permit will pull in all of the Clean Air Act requirements the facility may be subject to (like New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants) - There are potential standards that apply to incineration units that must be met on an ongoing basis for the life of the facility. Pollutants regulated would probably include: cadmium, CO, dioxin/furans, hydrogen chloride, lead, mercury, NOx, particulate matter, and SO2.
    - EPA will charge an annual emissions fee for the permit and it will need to be renewed every 5 years.

- **At a minimum, a minor NSR permit is likely required (see thresholds below).** Region 9 website: https://www.epa.gov/caa-permitting/tribal-minor-new-source-review-permitting-epas-pacific-southwest-region-9.
  - Review process for minor sources:
    - EPA will conduct a control technology review to determine what air pollution controls, if any, are needed. This will take into account local air quality status and what is otherwise required in the surrounding area.
    - EPA will also evaluate the air quality impacts from the project. This may require the permit application to include an air quality impact analysis. The application must demonstrate that the project will not cause or contribute to violation of the National Ambient Air Quality Standards.

- Permitting thresholds (potential annual emissions per pollutant in tons per year)
  - Torres-Martinez is a severe ozone nonattainment area and serious PM-10 nonattainment and results in lower permitting thresholds
    - VOC/NOx - 25 tpy major source threshold (in attainment areas this can be 100 or 250 tpy)
      - If this project can't stay below the major source thresholds for NOx/VOC then the project would need to obtain emissions offsets before constructing
      - 2 tpy VOC and 5 tpy NOx are the minor NSR thresholds
  - PM10 – 70 tpy major source threshold
    - 1 tpy PM10 minor NSR threshold
  - Minor NSR permitting thresholds: https://www.epa.gov/caa-permitting/tribal-minor-new-source-review-permitting-epas-pacific-southwest-region-9#thresholds

- Environmental Justice

- The EPA considers EJ in its permitting decisions. We would evaluate whether this project would impact an already overburdened community. https://www.epa.gov/environmentaljustice/ej-2020-action-agenda-epas-environmental-justice-strategy
- Region 9 does this for minor and major NSR actions

- Public Participation
  - For a project of this significance we would likely do extensive community outreach, at a minimum there would be a 30-day public comment period and an opportunity to request a public hearing.
  - Our review of potential EJ concerns helps to inform the level of outreach we conduct.
  - Anyone that participates in the public comment period (submitting comments in writing or at a public hearing) can challenge the permit decision to the EPA's Environmental Appeals Board, and to the Federal Court of Appeals (9th Circuit).
  - This process will take place regardless of the type of preconstruction permit needed.

- What would California require? (Not an expert on this)
  - All federal requirements
  - Would also require a Health Risk Assessment for air toxic emissions. (Dioxin/furans is of particular concern for incineration)
  - https://ww2.arb.ca.gov/resources/documents/air-toxics-hot-spots-information-and-assessment-act-ab-2588
  - Potentially helpful article https://www.waste360.com/waste-energy/story-california-s-two-incinerators (my general understanding is that it is very difficult to permit new incineration units in California)

Lisa

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